



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,983	08/03/2006	Hideto Nabemoto	1391.1074	8241
21171 7590 07/09/2008 STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			EXAMINER RAMOS, JAVIER J	
			ART UNIT 2625	PAPER NUMBER
			NOTIFICATION DATE 07/09/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Office Action Summary

Application No.

10/587,983

Applicant(s)

NABEMOTO ET AL.

Examiner

JAVIER J. RAMOS

Art Unit

2625

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 12-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-11 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S508)
- Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-19 are pending in this application.
2. Claims 12-19 have been withdrawn from consideration [5/9/08].

Election/Restrictions

3. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-11, drawn to an image processing apparatus and method.

Group II, claim(s) 12-19, drawn to a carrier sheet.

4. The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Group I, claim(s) 1-11, are drawn to an image processing apparatus and method reading a front and rear side image from a front and rear side of a medium, detecting a combination instruction mark on the front and/or rear side image, and combining front and rear side sliced images in a predetermined direction to obtain one image when the combination instruction mark is detected.

Group II, claim(s) 12-19, are drawn to a carrier sheet comprising two sheets having a rectangular shape and holding paper between the two sheets.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

5. Applicant's election of Group I in the reply filed on 5/9/08 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Priority

6. Acknowledgment is made that this application is a national stage filing under 35 U.S.C. 371 of international application no. PCT/JP05/03941 filed on 3/8/05.

7. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d) based on Japanese Patent Application No. 2004-066549 filed on 3/10/04.

Specification

8. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. A suggested title that clearly is indicative of the invention is as follows:

"Image processing apparatus and method for using mark detection to combine multiple images present on the front and rear surfaces of a medium"

35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claim 7 does comply with the current standards for patent eligible subject matter under 35 USC § 101. The first step in determining whether a claim recites patent eligible subject matter is to determine whether the claim falls within one of the four statutory categories of invention recited in 35 USC § 101: process, machine, manufacture and composition of matter. Claim 7, of the pending application, falls under the statutory category of a "process." For the purpose of § 101, a "process" has been given a specialized, limited meaning by the courts.

A § 101 process must (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing. If neither of these requirements is met by the claim, the method is not a patent eligible process under § 101. To qualify as a § 101 statutory process, the claims should positively recite the other statutory class (the thing or

Art Unit: 2625

product) to which it is tied, for example by identifying the apparatus that accomplishes the method steps, or positively recite the subject matter that is being transformed, for example by identifying the material that is being changed to a different state.

11. It is noted that based on the disclosure of the application, the image processing method of claim 7 is tied to a statutory machine, a scanner. Thus, though it is not explicitly stated in the claim language, independent claim 7 does satisfy the first requirement of a § 101 process and therefore is statutory.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. **Claims 1, 3, 4, 6, 7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamagaki et al. (US 5,452,105) in view of Kanno et al. (US 6,263,118 B1).**

14. In regards to claims 1 and 7, Tamagaki et al. (hereafter Tamagaki) teaches an image processing apparatus (**Figs. 1 and 2**) and an image processing method (**Fig. 8**), comprising: an image reading unit (**Fig. 2, Object 22, scanner unit**); a mark detecting unit (**Fig. 2, Object 22, scanner unit**) detecting a combination instruction mark present

in a predetermined position of at least one of the front side image and the rear side image (**Fig. 8, Step S44, retrieve marks; Col. 19, Lines 47-60, the presence of marks dictates the image joining process**); and an image combining unit (**Fig. 1, Object 48, joint-portion processing section**) combining a front side sliced image (**Figs. 9(a) and 9(b), object 64**) and a rear side sliced image (**Figs. 9(a) and 9(b), object 65**) sliced from predetermined positions of the front side image and the rear side image (**Col. 12, Lines 37-44, the slices are the partial image data**) in a predetermined direction (**Figs. 9(a), 9(b) and 10, refer to the direction arrows**) to obtain one image when the combination instruction mark is detected (**Figs. 9(c) and 10, Object 66 and the combined image composing objects 67a-67f**).

It is noted however, that Tamagaki does not specifically teach an image reading unit reading a front side image and a rear side image from a front side and a rear side of a medium, respectively. Though Tamagaki does teach reading multiple images (Col. 12, Lines 37-44)

In analogous art, Kanno et al. (hereafter Kanno) teaches an image reading unit (**Fig. 2, Object 4, scanner section**) reading a front side image and a rear side image from a front side and a rear side of a medium, respectively (**Figs. 31C, 31D, 33 and 35A, 36A; Col. 29, Lines 27-65, the device can read a double sided document and form multiple images on a single sheet**).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Tamagaki by enabling the reading unit to read a front side image and a rear side image from a front side and a rear side of a medium, respectively, as

taught by Kanno, in order to reduce the amount of paper used in copying or printing operation (**Kanno: Col. 1, Lines 17-25**).

15. In regards to claim 3, Tamagaki teaches the image combining unit finds effective ranges in the front side image and the rear side image (**Col. 20, Lines 24-35, a magnification operation takes place that changes the range of the images captured**), selects a larger one of the effective ranges (**Col. 20, Lines 24-35, variable magnification is carried out in accordance with the largest sized copy sheets available**), determines a formal size larger than the selected effective range and closest to a size of the effective range as a size of images (**Col. 20, Lines 24-35, selects the largest sized copy sheets available**), and slices images of the determined size from the front side image and the rear side image to combine the images into one image (**Col. 20, Lines 7-24, partial document data is combined based on the results of the positioning**).

16. In regards to claim 4, Tamagaki teaches the mark detecting units sets each of the front side image and the rear side image as individual one image when the combination instruction mark is not detected (**Fig. 8, Step S45, detect marks with a "NO" output; Col. 19, Lines 47-61, the joining operation is stopped when marks are not detected and therefore each partial image will stay an individual image**).

17. In regards to claim 6, Tamagaki teaches when the mark detecting unit does not detect the predetermined combination instruction mark from one of the front side image and the rear side image **(Col. 19, Lines 47-61, the joining operation is stopped when marks are not detected and therefore each partial image will stay an individual image)**, the mark detecting unit neglects the combination instruction mark detected from the other of the front side image and the rear side image **(Col. 19, Line 47 to Col. 20, Line 23, the images both must have mark indicating joints or else the combination will not occur even if one mark was detected)** and sets each of the front side sliced image and the rear side sliced image sliced from the predetermined positions of the front side image and the rear side image as individual one image **(Fig. 8, Steps S45 and S47, detect marks or joints with a “NO” output; Col. 19, Line 47 to Col. 20, Line 23, the joining operation is stopped when marks or joints are not detected and therefore each partial image will stay an individual image)**.

18. In regards to claim 9, Tamagaki teaches the medium includes a vertical reference line defining a position of a reference in a conveying direction **(Fig. 9(a), Object 63, the mark which is an arrow)**, and wherein the vertical reference line is used as a reference for slicing of the front side sliced image and the rear side sliced image from the front side image and the rear side image and combining of the front side sliced image and the rear side sliced image **(Col. 20, Line 48 to Col. 21, Line 9, the arrow mark is used in combining the images as a reference mark for positioning the images together)**.

19. In regards to claim 10, Tamagaki teaches the medium comprises a carrier sheet **(Col. 19, Lines 29-41, a document)** including the combination instruction mark in the predetermined position **(Col. 19, Lines 29-41, the marks are directly put on the documents)** and holding an original in an inside thereof or comprises an original **(Col. 19, Lines 29-41, the carrier sheet is the document itself)**, and wherein the image processing method comprises setting each of the front side image and the rear side image as individual one image when the combination instruction mark is not detected **(Fig. 8, Step S45, detect marks with a “NO” output; Col. 19, Lines 47-61, the joining operation is stopped when marks are not detected and therefore each partial image will stay an individual image).**

20. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamagaki et al. (US 5,452,105) in view of Kanno et al. (US 6,263,118 B1), as applied to claims 1 and 7, in further view of Toshihiro (JP 9-200507).

A translation of Toshihiro, provided in the applicant's IDS dated 8/3/06, is relied upon in the following rejection when citing the reference.

21. In regards to claim 2, Tamagaki et al. (hereafter Tamagaki), as modified by Kanno et al. (hereafter Kanno), teaches the front side image **(Kanno: Figs. 33 and 35A, right side)** and the rear side image **(Kanno: Figs. 33 and 35A, reverse side)** as a reference when the combination instruction mark is detected **(Tamagaki: Fig. 8, Step**

S44, retrieve marks; Col. 19, Lines 47-60, the presence of marks dictates the image joining process).

It is noted however, that Tamagaki, as modified by Kanno, does not specifically teach a tilt correcting unit correcting a tilt with a vertical reference line or a horizontal reference line present in the predetermined positions.

In analogous art, Toshihiro teaches a tilt correcting unit (**Fig. 1, Object 22, scanner section**) correcting a tilt with a vertical reference line or a horizontal reference line present in the predetermined positions (**Figs. 3a-4b; Page 2, [0013] to Page 4, [0018], the tilt is corrected with reference to an angle of inclination that uses a reference line position to compute**).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Tamagaki, as modified by Kanno, by correcting the tilt of an image with a vertical reference line or a horizontal reference line, as taught by Toshihiro, in order to align multiple input images within a set of input images with the same vertical orientation (**Toshihiro: Page 2, Lines 1-10**).

22. In regards to claim 8, Tamagaki, as modified by Kanno, teaches the medium comprises a carrier sheet (**Col. 19, Lines 29-41, a document**) including the combination instruction mark in the predetermined position (**Col. 19, Lines 29-41, the marks are directly put on the documents**).

It is noted however, that Tamagaki, as modified by Kanno, does not specifically teach a carrier sheet holding an original in an inside thereof.

In analogous art, Toshihiro teaches a carrier sheet (**Fig. 2b, Object 7, a carrier sheet**) holding an original in an inside thereof (**Page 2, [0012], a manuscript can be inserted between the transparent sheets of the carrier sheet**).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Tamagaki, as modified by Kanno, by providing a carrier sheet holding an original in an inside thereof, as taught by Toshihiro, in order to have a constant alignment line for each page contained within a carrier sheet for image alignment (**Toshihiro: Page 2, [0007]**).

Allowable Subject Matter

23. Claims 5 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Tamagaki et al. (US 5,452,105) neither alone, nor in combination with any of the other cited prior art, specifically teaches a non-combination instruction mark that neglects the existing combination instruction marks and sets both captured front and rear side images to be individual images and not to be combined.

It is noted, however, by the examiner that it is well known in the art for watermarks, and the like, to be used to inhibit copying functions of image forming devices, such as in Matsunoshita (US 2003/0179412 A1).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAVIER J. RAMOS whose telephone number is (571) 270-3947. The examiner can normally be reached on Monday to Thursday - 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark K. Zimmerman can be reached on (571) 272-7653. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. J. R./
Examiner, Art Unit 2625

/Mark K Zimmerman/
Supervisory Patent Examiner, Art Unit 2625